

SIDDIQUI SABA







WITH THE SMARTPHONE MARKET EVOLVING RAPIDLY, PREDICTING PRICES HAS BECOME & FASCINATING CHALLENGE. THIS PROJECT LEVERAGES MACHINE LEARNING TO TRANSFORM RAW MOBILE SPECS INTO PRECISE PRICE PREDICTIONS, MAKING TECHNOLOGY SMARTER AND DECISION-MAKING EASIER.

Project Overview



- ★ OBJECTIVE: PREDICT MOBILE PRICES ACCURATELY BASED ON FEATURES LIKE RAM, BATTERY, CAMERA, ETC.
- ★ TOOLS USED: PYTHON, P&ND&S, M&TPLOTLIB, SE&BORN, SCIKIT-LE&RN
- ★ METHODS: DATA PREPROCESSING, VISUALIZATION, MODEL TRAINING & EVALUATION

Project Workflow



- DATA COLLECTION
- ★ DATA CLEANING & PREPROCESSING
- ★ EXPLORATORY DATA ANALYSIS (EDA)
- ★ FEATURE ENGINEERING
- ★ MODEL TRAINING
- ★ MODEL EVALUATION
- **★** PREDICTIONS

QChallenges & SolutionsQ

- ★ CHALLENGES FACED:
- * HANDLING MISSING VALUES
- * SELECTING RELEVANT FEATURES
- * AVOIDING MODEL OVERFITTING
- **★** ★ SOLUTIONS:
- ★ USED FILLNA() AND IMPUTATION TECHNIQUES
- * APPLIED FEATURE SELECTION AND ENCODING
- **★** USED CROSS-VALIDATION TO IMPROVE
- **GENERALIZATION**

Results

- **★** M**A**E: 0.0
- **★** MSE: 0.0
- **★** RMSE: 0.0
- ★ R²: 1.0

★ THE MODEL & CHIEVED PERFECT & CCURACY ON THE GIVEN DATASET.

CONCLUSION & THANKS



This project demonstrated how machine learning can be applied to predict mobile prices effectively.

With proper preprocessing, feature engineering, and evaluation, high accuracy can be achieved.

Special thanks to Jupyter Notebook for providing an interactive coding environment.



References

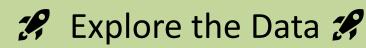


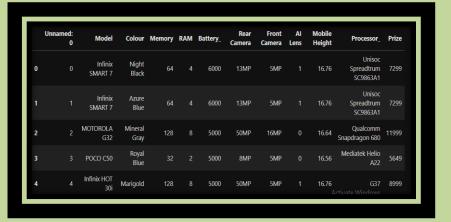
★ PYTHON OFFICI&L DOCUMENT&TION

PANDAS & SCIKIT-LEAR
DOCUMENTATION

★ MATPLOTLIB & SEABORN LIBRARIES

* KAGGLE DATASETS





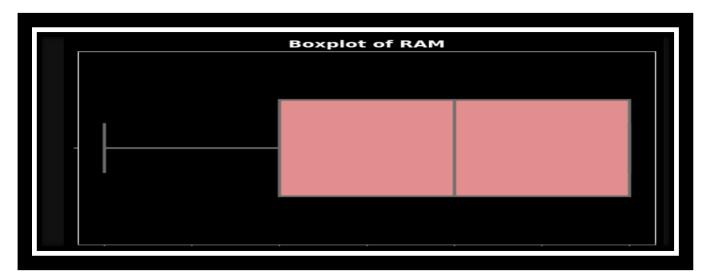
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                    541 non-null
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     Processor
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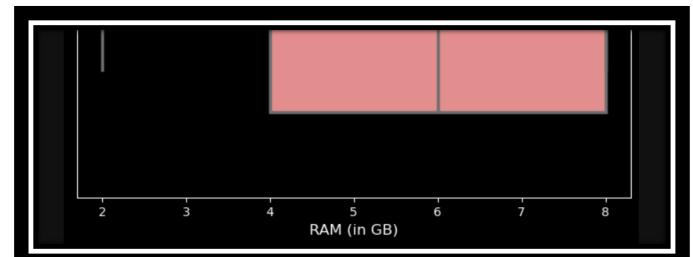






Boxplot for RAM

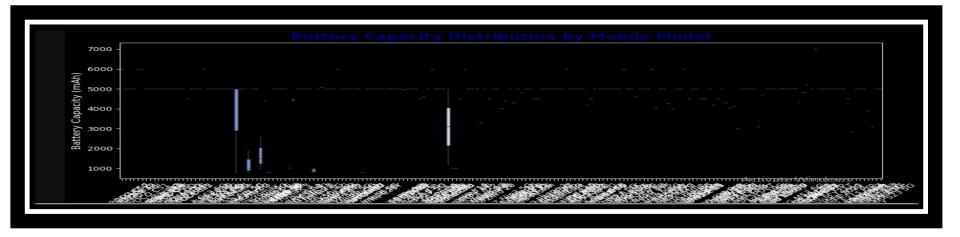


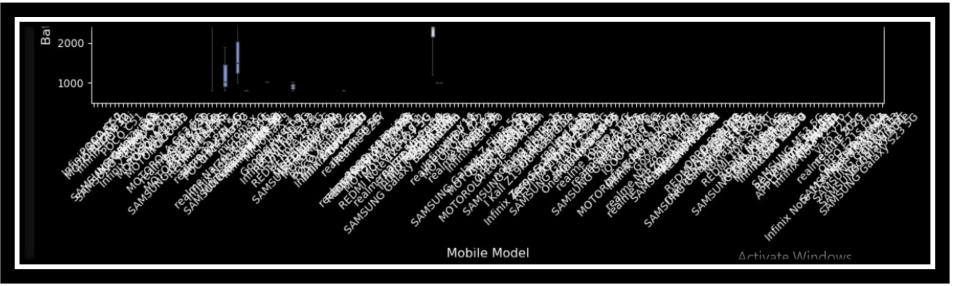




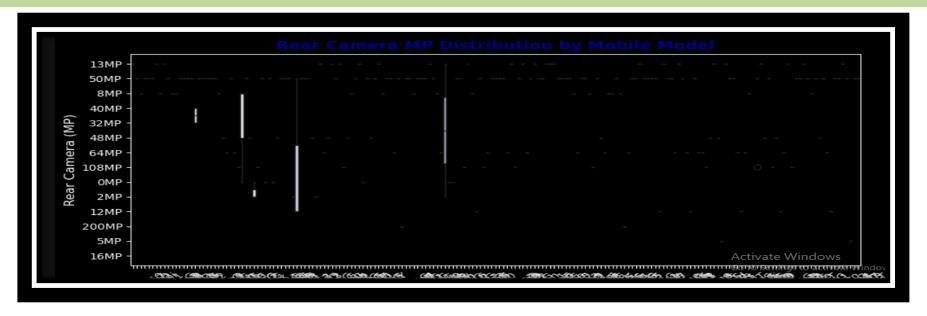


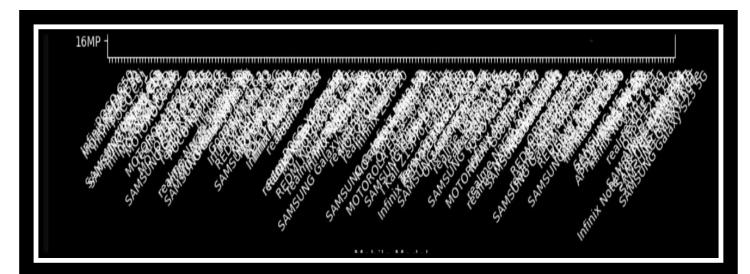
Boxplot for Battery

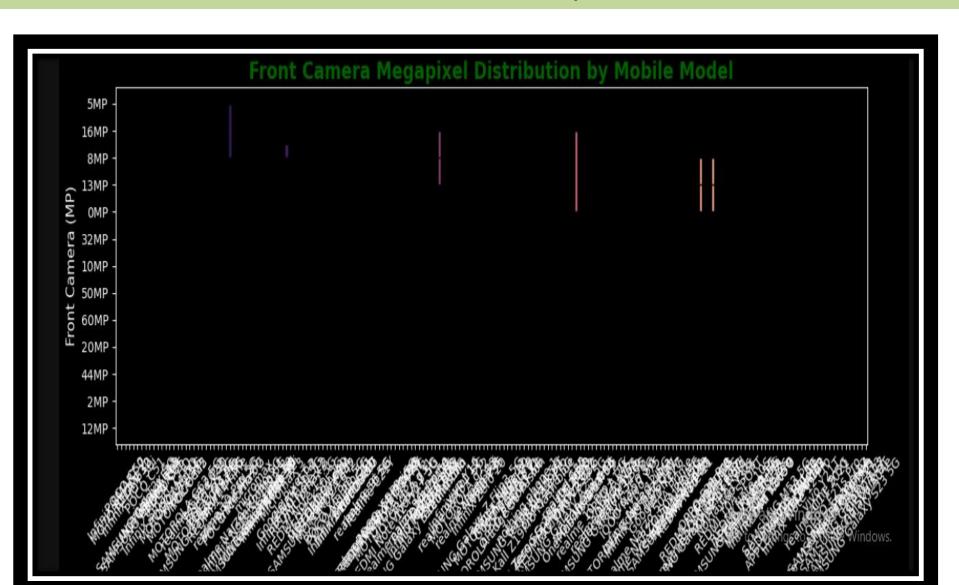


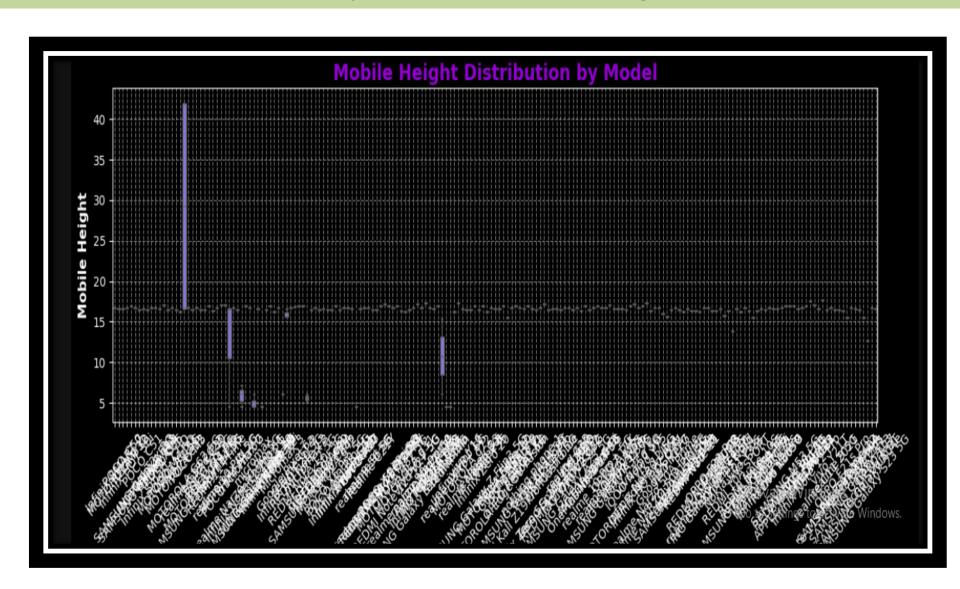


√ 1. Rear Camera Boxplot

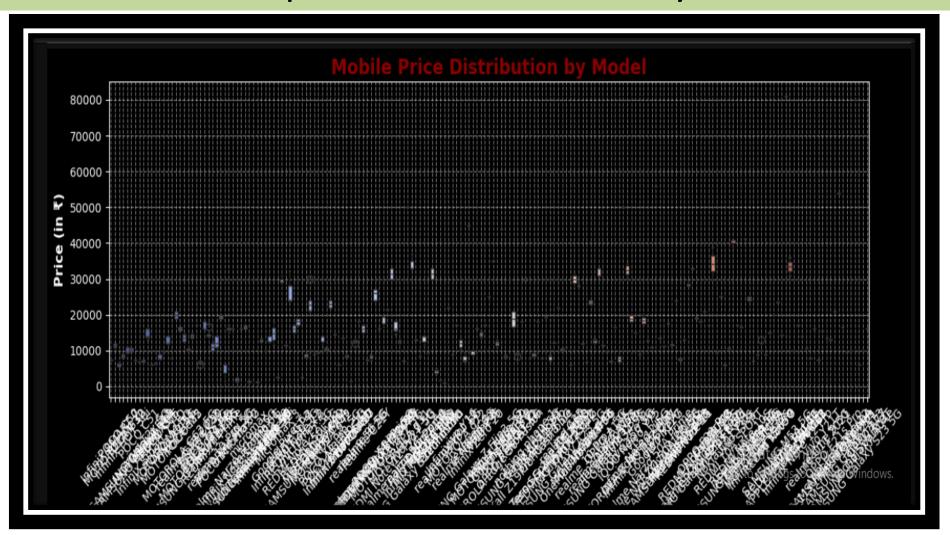








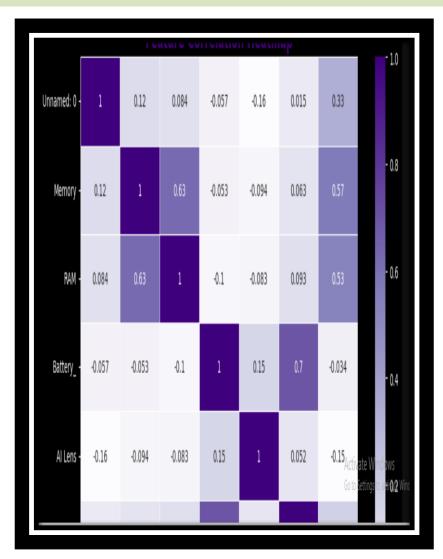
Boxplot for Mobile Price by Model.

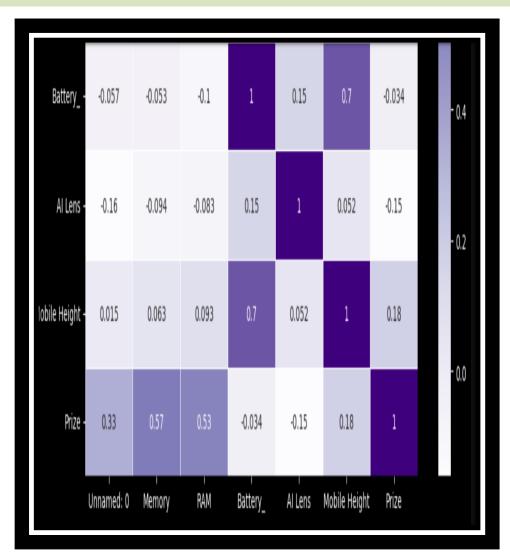




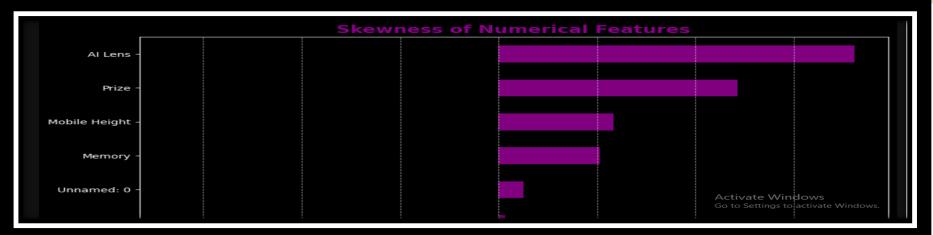


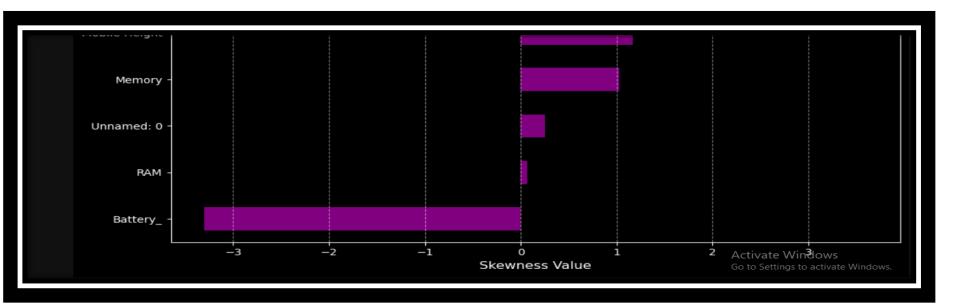
Q Correlation Heatmap **Q**



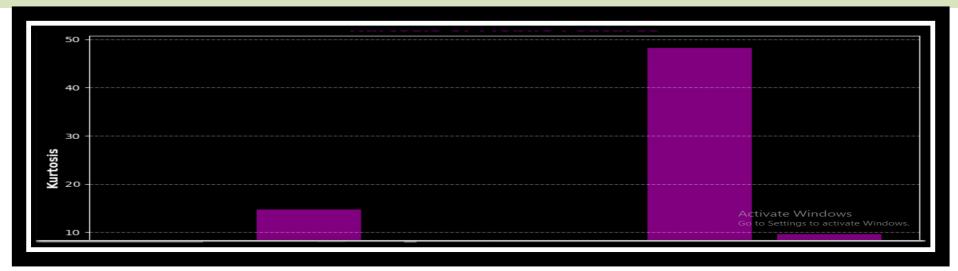


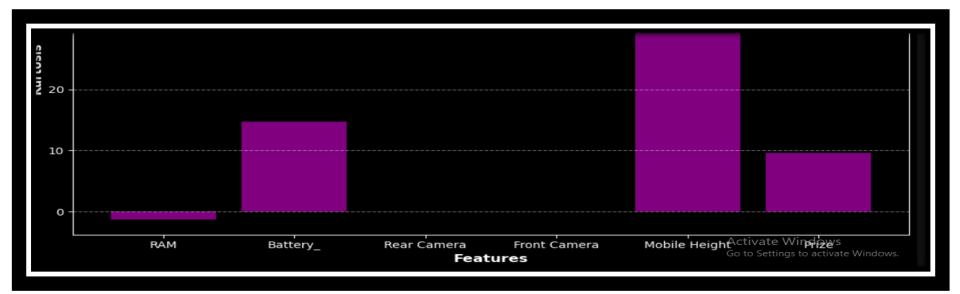




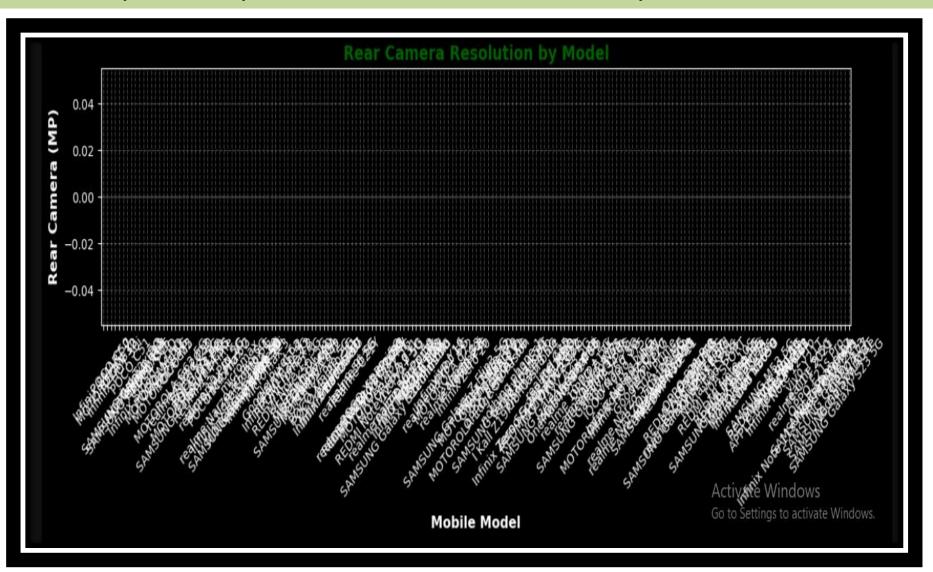


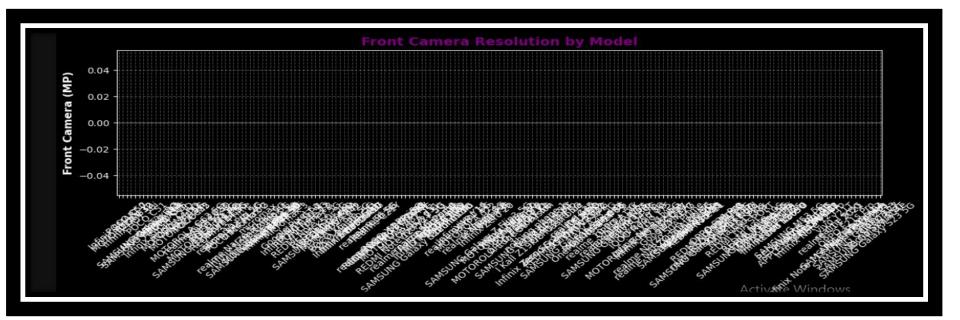
Kurtosis Analysis

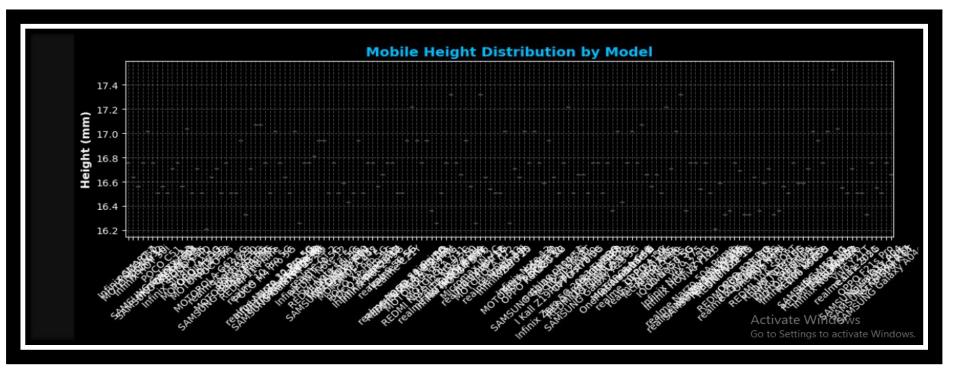




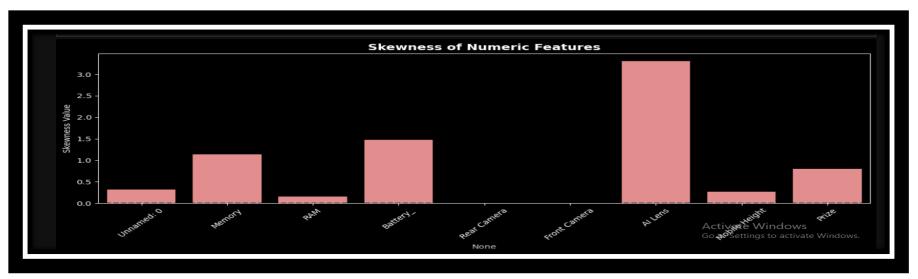
Boxplot Analysis: Rear Camera Resolution by Mobile Model

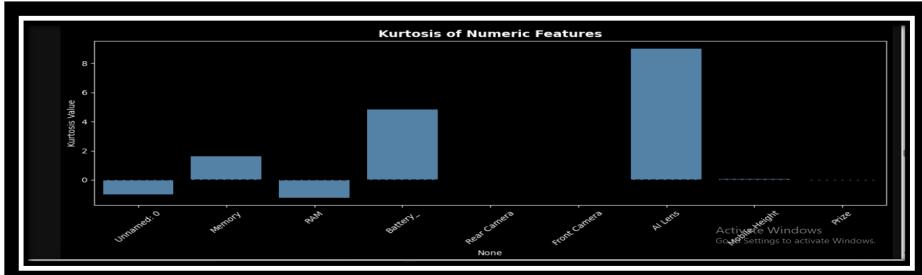






SCREEN SHOT: 12 6





⊗ Bar chart of error metrics

